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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,152	10/24/2000	Kunihiko Noguchi	450100-02779	3303
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FROMMER LAWRENCE & HAUG 745 FIFTH AVENUE- 10TH FL. NEW YORK, NY 10151			EXAMINER NGUYEN, FRANCIS N	
			ART UNIT 2674	PAPER NUMBER 10
DATE MAILED: 11/28/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/695,152

Applicant(s)

NOGUCHI, KUNIIHIKO

Examiner

FRANCIS NGUYEN

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment filed on 3/11/2003 is entered. The proposed drawing correction filed on 3/11/2003 is approved by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miichi et al. (US Patent 5,880,745) in view of Urade et al. (US Patent 6,272,644).

As to **claim 1**, Miichi discloses a projection display apparatus (liquid crystal projection apparatus, see Abstract) connected to a control device as a host (personal computer 15 as shown in figure 5) through a serial interface (**link 16 as shown in figure 5**, column , lines), in which data is transmitted/received bidirectionally to display a picture on a display screen (screen 14 as shown in figure 5, column 7, lines 57-58), said apparatus comprising:

display means (**liquid crystal display panel, column 7, line 14**) for receiving display data from said control device and projecting a picture (OHP 13, column 6, lines 60-62) represented by said display data onto said display (screen 14 as shown in figure 1) ;

display control means for controlling a picture projected by said display means based on display control signal input (LCD controller 43 as shown in figure 5, column 8, lines 48-49) .

However, Miichi fails to expressly teach input/output means connected to the control device adapted for generating display control signals controlling said display means , said input/output means being further connectable to at least one external peripheral equipment to input/output data pertaining to the supplementary information appended to input data.

Urade et al. teaches input/output means connected to the control device adapted for generating display control signals controlling said display means (**USB hub 31 linked to display 30 via microcontroller 38** as shown in figure 7). Urade et al. teaches USB hub connected to a host computer and a plural of peripheral devices (column 4, lines 57-61, also figure 7), **bidirectional data transfer between hub controller and microcontroller (column 5, lines 29-32) . It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Miichi, then couple the USB hub 31 as taught by Urade et al. to personal computer 15 in apparatus of Miichi for bi-directional interface link and connect the USB hub to the OHP projector for providing connection to extra peripheral devices to obtain the combined apparatus Miichi modified by Urade et al. because it would result in expanding connectivity to a plurality of devices, bi-directional data communication, and also flexible power control of USB devices as taught by Urade et al. (column 4, lines 36-47).**

As to **claim 2**, see the same citation for claim 1. The projection display apparatus of claim 1 wherein said input/output means is a hub conforming to the USB (Universal Serial Bus)

Art Unit: 2674

standard (apparatus Miichi modified by Urade et al. **comprises USB Hub 31** shown in Urade et al. figure 7) and is connected to the control device having an interface conforming to the USB standard (**note Urade et al. teaches USB hub 11 connected to host computer** , column 4, lines 57-61 and **controlling device is personal computer 15 of Miichi, also USB interface 37 is taught in figure 7 of Urade et al,** and to an external peripheral equipment having an interface conforming to the USB standard (see Urade et al., column 1, lines 15-17, **printer, keyboard** , also see Urade et al. **column 1, lines 30-34 , devices include USB interface and a USB logical device).**

As to **claim 3**, the projection display apparatus according to claim 1, wherein an operating input device (**Urade et al. teaches keyboard**, column 1, lines 14-15) for generating an operating input signal as an external peripheral equipment is connected to said input/output means (**Urade et al. already teaches a keyboard connected to USB hub** , see column 1, lines 30-34, **also USB Hub 31 provides a plurality of USB device ports 32-35 shown in figure 7**) and wherein said display control means controls a picture projected by said display means (**LCD controller shown in figure 5**) in accordance with a pointer control signal (**Miichi teaches mouse 18 for pointer control signals** (as shown in figure 1) from the control device (figure 1 of **Miichi teaches personal computer 15 as shown in figure 5**) based on the operating input signal generated in said operating device (**note Urade et al. aforementioned teaching of USB keyboard**).

Art Unit: 2674

As to **claim 4**, see the same citation for **claim 1**. The projection display system according to **claim 1** wherein a second projection display apparatus is connected as an external peripheral device to said input/output means (note **Urade et al. teaching devices including monitors (column 1, lines 14-15) as devices having USB interface in communication with hub repeater, column 1, lines 30-34, multiple ports for accommodating multiple USB devices in figure 3**, it is obvious to a person of ordinary skill in the art to connect another projection display apparatus) and wherein said input/output means outputs display data and the display control signals from the control device to said second projection display apparatus (note **Urade et al. teaches USB hub controller and hub repeater, column 1, lines 25-34, this allows connections of a plurality of USB devices ; therefore communications from personal computer 15 of Miichi to a second projection display apparatus is then inherent because of the hub function.**

As to **claim 5**, **Miichi** teaches a projection display system (see Abstract) in which a control device as a host and a projection display apparatus as a target controlled by said control device are interconnected over a serial interface (**personal computer 15 in figure 5 connected to OHP 13 as shown in figure 1**), and in which data transmission/reception is made bi-directionally at least between said control device and said projection display apparatus to project a picture by said projection display apparatus on a display screen(**screen 14 shown in figure 1**), wherein

said projection display apparatus includes display means (**LCD panel column 7, lines 14-15, shown in figure 5**) for receiving display data from said control device and projecting a

Art Unit: 2674

picture represented by said display data onto said display screen (screen 14 shown in figure 5), and display control means for controlling a picture (**LCD controller 43 as shown in figure 5**) projected by said display means based on a display control signal input (input from personal computer 15 of figure 5 . However Miichi fails to teach input/output means connected to the control device adapted for generating display control signals controlling said display means, said input/output means being further connectable to at least one external peripheral equipment to input/output data pertaining to supplementary information appended to input data. Urade et al. teaches input/output means connected to the control device adapted for generating display control signals controlling said display means (**USB hub 31 linked to display 30 via microcontroller 38 as shown in figure 7, also note LCD controller 43 in figure 5 controlling LCD unit 44 as shown in figure 5**). Urade et al. teaches USB hub connected to a host computer and a plural of peripheral devices (column 4, lines 57-61, also figure 7)), **bidirectional data transfer between hub controller and microcontroller (column 5, lines 29-32)**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the apparatus of Miichi, then couple the USB hub 31 as taught by Urade et al. to personal computer 15 in apparatus of Miichi , link the USB hub to the OHP to obtain the combined apparatus Miichi modified by Urade et al. because it would result in expanding connectivity to a plurality of devices, for bi-directional interface link , and also flexible power control of USB devices as taught by Urade et al. (column 4, lines 36-47).

As to **claim 6**, see the same citation for claim 5. The projection display a system according to claim 5 wherein the input/output means of the projection display apparatus is a hub (USB hub

Art Unit: 2674

pursuant to the USB (Universal Serial Bus) and is connected to an external peripheral equipment having an interface conforming to the USB standard (**Urade et al. teaches devices including printers, keyboards (column 1, lines 14-15) as devices having USB interface in communication with hub repeater, column 1, lines 30-34)** and wherein the input/output means of the control device is an interface pursuant to the USB standard (apparatus Miichi modified by Urade et al. **teaches microcontroller 38 connected to USB hub 31 via microcontroller interface 37, see Urade et al. figure 7).**

As to **claim 7**, the projection display system according to claim 5 wherein there is provided an operating input device (**Urade et al. teaches keyboard, column 1, lines 14-15)** connected as an external peripheral device to said input/output means of said projection apparatus to generate an operating input signal , and wherein said display control means controls a picture projected by said display means on said display screen (OHP 13 shown in figure 1, LCD controller 43 shown in figure 5) in accordance with a pointer control signal (Miichi **teaches mouse 18 shown in figure 1)** from said control device (personal computer 15 shown in figure 5) which is based on the operating input signal generated in said operating input device (**note Urade et al. aforementioned teaching of USB keyboard).**

As to **claim 8**, see the same citation for claim 5. The projection display system according to claim 5 wherein said projection display apparatus is a first projection display apparatus, and a second projection display apparatus is connected as an external peripheral device to said input/output means of said first projection display apparatus (note Urade et al. teaching **devices including monitors (column 1, lines 14-15) as devices having USB interface in**

Art Unit: 2674

communication with hub repeater, column 1, lines 30-34, multiple ports for accommodating multiple USB devices in figure 3, it is obvious to a person of ordinary skill in the art to connect another projection display apparatus) and wherein the input/output means of said first projection display apparatus outputs display data and the display control signal from the control device to said second projection display apparatus (note Urade et al. teaches USB hub controller and hub repeater, column 1, lines 25-34, this allows connections of a plurality of USB devices ; therefore communications from personal computer 15 of Miichi to a second projection display apparatus is then inherent because of the hub function.

As to **claim 10**, Miichi modified by Urade et al. teaches receiving means for receiving (receiver 45 shown in figure 1) a remote control signal from a remote control device (remote controller 1 shown in figure 1, column 7, lines 43-49) and providing a detection signal in response thereto (input signal to MPU 39 shown in figure 5), wherein said display control means outputs a pointer control signal to said display means to shift a pointer (cursor keys 5-8 shown in figure 2 serve to shift a pointer) included in said picture projected by said display means responsive to said detection signal from said receiving means (image signal on basis of process predetermined in the position specified by mouse 18, column 7, lines 5-8).

As to **claim 11**, Miichi modified by Urade et al. teaches the projection display system according to claim 5 (see same citations for claim 5) , wherein said projection display apparatus further comprises receiving means for receiving (receiver 45 shown in figure 1) a remote control signal from a remote control device (remote controller 1 shown in figure 1, column 7, lines 43-

Art Unit: 2674

49) and providing a detection signal in response thereto (input signal to MPU 39 shown in figure 5), wherein said display control means outputs a pointer control signal to said display means to shift a pointer (cursor keys 5-8 shown in figure 2 serve to shift a pointer) included in said picture projected by said display means responsive to said detection signal from said receiving means (image signal on basis of process predetermined in the position specified by mouse 18, column 7, lines 5-8).

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miichi in view of Urade et al. and further in view of Nguyen et al. (US Patent 5,682,181).

As to **claim 9**, Miichi modified by Urade et al. fails to teach control means switching the application program generating the display based on the operating input signal. Nguyen et al. teaches a control means switching the application program generating the display based on the operating input signal : method and display control system for a projection display system, see abstract, teaching main menu window 60 with different selections, switching from main menu window 60 to draw window 80 (column 5, line 40 through column 6, line 5) based on user selection. **It would have been obvious to a person of ordinary skill in the art the time of the invention to utilize the apparatus Miichi modified by Urade et al., then modify the software by Miichi to include menu selection of applications as taught by Nguyen et al., to obtain the combined apparatus Miichi modified by Urade et al and Nguyen et al., because it would provide user greater flexibility to select appropriate software application by menu selection.**

This corresponds to the projection display system according to claim 7 wherein said control device includes operating input means adapted for being actuated to generate said operating input signal (**Note Miichi teaching aforementioned mouse 18 in figure 5 as operating input means**), said control means switching the application program (**Nguyen et al. aforementioned teaching of main menu window/draw window**) generating the display based on the operating input signal from said operating input means or the operator input device connected to the projection display apparatus.

Response to Arguments

4. Applicant's argument filed on 3/11/03 has been fully considered but is not persuasive. Applicant's argument as to cited art failing to teach input/output means connected to the control device is not valid because the USB hub of Urade et al. does have a root port 13 (figure 3) for linking to a host computer (column 3, lines 40-41).

Applicant's argument as to cited art failing to teach input/output means further connected to an external peripheral equipment is not valid because the USB hub of Urade et al. does have ports 1-4 (figure 3) to accommodate external peripheral devices.

Applicant's argument as to cited art failing to teach input/output means as part of the projection apparatus is not valid because the combined apparatus Miichi modified by Urade et al. has the USB hub combined with the OHP (see above rejection). Since the USB hub has a root port (Urade et al. figure 3), it makes sense that it is electrically linked to the host computer, but not combined with the host computer, as Applicants thought.

Art Unit: 2674

Applicant's argument as to cited art failing to teach receiving means for receiving a remote control signal is not valid because Miichi does teach a receiver 45 (shown in figure 1) for receiving a remote control signal from remote control device (remote controller 1 shown in figure 1, column 7, lines 43-49)

The pending claims, due to lack of claim breadth, remain rejected.

Conclusion

5. The prior art made of record is not relied upon, but pertinent to Applicant's disclosure:

US Patent	Furuhata	6,345,897
US Patent	Lee	6,587, 053
US Patent	Endo	6,363,491

Reference Furuhata is made of record as it discloses a projection display device and remote controller.

Reference Lee is made of record as it discloses a wireless key input processing apparatus using a Universal Serial Bus.

Reference Endo is made of record as it discloses a USB apparatus and a USB hub apparatus.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2674

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **FRANCIS N NGUYEN** whose telephone number is **703 308-8858**. The examiner can normally be reached during hours 8:00 AM- 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **RICHARD A HJERPE** can be reached at 703 305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only).

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service whose telephone number is (703) 306-0377.

Application/Control Number: 09/695,152
Art Unit: 2674

Page 13

FN
November 20th, 2003

FRANCIS N NGUYEN
Examiner
Art Unit 2674

RICHARD WIERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000